(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



. I 1888 EN 1881 IN 1888 EN 18

(43) International Publication Date 15 January 2004 (15.01.2004)

PCT

(10) International Publication Number WO 2004/005818 A3

(51) International Patent Classification⁷: B01D 53/14

(21) International Application Number:

PCT/US2003/021194

(22) International Filing Date: 3 July 2003 (03.07.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/393,595 60/467,719 3 July 2002 (03.07.2002) US 2 May 2003 (02.05.2003) US

(71) Applicant (for all designated States except US): FLUOR CORPORATION [US/US]; One Enterprise Drive, Aliso Viejo, CA 92656 (US).

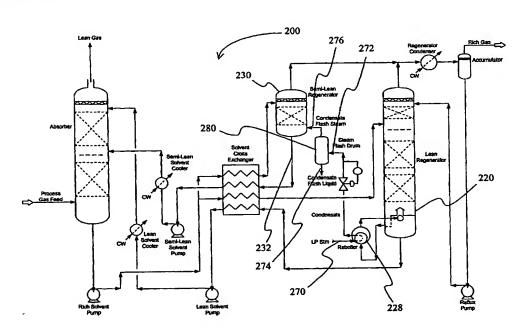
(72) Inventors; and

(75) Inventors/Applicants (for US only): REDDY, Satish [US/US]; Fluor Corporation, One Enterprise Drive, Aliso Viejo, CA 92656 (US). SCHERFFIUS, Jeff [US/US]; Fluor Corporation, One Enterprise Drive, Aliso Viejo, CA 92656 (US). **GILMARTIN, John** [US/US]; Fluor Corporation, One Enterprise Drive, Aliso Viejo, CA 92656 (US). **FREGUIA, Stefano** [US/US]; Fluor Corporation, One Enterprise Drive, Aliso Viejo, CA 92656 (US).

- (74) Agent: FESSENMAIER, Martin; Rutan & Tucker, LLP, 611 Anton Blvd., Suite 1400, Costa Mesa, CA 92626 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: IMPROVED SPLIT FLOW PROCESS AND APPARATUS



(57) Abstract: An acid gas removal plant (100) includes an absorber (110) that provides a rich solvent (106) to two regenerators (120, 130) that independently generate a lean (122) and a semi-lean solvent (132), wherein the semi-lean solvent (132) is produced in one (130) of the regenerators using heat (140) and/or steam (276) derived from the other regenerator (120). Further heat integration is particularly contemplated with power plants in which the power plant provides high-level heat to the acid gas removal plant and wherein the power plant receives low-level heat from the acid gas removal plant.



WO 2004/005818 A3



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

(88) Date of publication of the international search report: 25 March 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/21194

A. CLASSIFICATION OF SUBJECT MATTER			
IPC(7) : B01D 53/14 US CL : 96/242; 95/168,181,183,235,236; 423/228,229			
According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols)			
U.S.: 96/242,234; 95/168,181,183,235,236,160,161,162,163,165,166,167,169; 423/228,229			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)			
NONE			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
Х	US 4,146,569 A (GIAMMARCO et al.) 27 March 1	979, Fig. 5, col. 7 line 40-col. line 25.	1,3,6-8,10
A	US 2,437,288 A (ANDERSON) 09 March 1948.		1-20
A	US 3,962,404 A (GIAMMARCO et al.) 08 June 1976.		1-20
A	US 4,073,863 A (GIAMMARCO et al.) 14 February 1978.		1-20
A	US 4,248,608 A (GIAMMARCO et al.) 03 February 1981.		1-20
]			
	Land in the section of the C	See materit femilie anner	·
Further documents are listed in the continuation of Box C. See patent family annex.			
Operation of the securions.		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the	
"A" documen of partice	t defining the general state of the art which is not considered to be ular relevance	principle or theory underlying the inve	
	oplication or patent published on or after the International filing date	"X" document of particular relevance; the considered novel or cannot be conside when the document is taken alone	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the considered to involve an inventive ste	claimed invention cannot be
"O" document referring to an oral disclosure, use, exhibition or other means		combined with one or more other suc being obvious to a person skilled in the	documents, such combination
"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent	family
Date of the actual completion of the international search		Date of mailing of the international search report 1 2 DEC 2003	
18 November 2003 (18.11.2003)			
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US		Authorized officer	
Commissioner for Patents		Duane 9. Smith	
P.O. Box 1450 Alexandria, Virginia 22313-1450		Telephone No. 703-308-0651	
	o. (703)305-3230		
Form PCT/ISA/210 (second sheet) (July 1998)			